# IWFM / IDC Users Group Meeting

# December, 2014

# Update on IWFM and IDC Activities

- Activities related to engine and tools development
  - IWFM-2015 and IDC-2015 were released to the public in September; new software design allows easy implementation of new simulation features, easy conversion of individual components to stand-alone programs and easy linking of IWFM to other models (CalSim, SWAP, etc) and GUIs
  - New simulation features:
    - Root water uptake from groundwater
    - Access of riparian vegetation to stream flow to meet ET
    - Kinematic wave approach in routing stream flows
    - Ability to specify stream wetted perimeter as a rating table with respect to stream flow (good for simulating flow in flood plains around streams)

# Update on IWFM and IDC Activities

- Activities related to engine and tools development *(continued)*
  - Ability to print-out and animate groundwater velocity field; possible linkage to transport models
  - Two new tools are available to process SSURGO soils databases to develop soils data for IWFM, IDC or other models: Soil Data Builder (SDB) and SDB with GIS – both available for download at *IWFM Support Tools* web page
  - C2VSim ArcGIS GUI for visualization and easy analysis of C2VSim results (soon to become a general IWFM ArcGIS GUI)
  - Quadrilateral mesh generation project with UC Davis; received an initial mesh generator as part of the first phase of the project
  - Peer review of IWFM (along with Modflow and HydroGeoSphere) by CWEMF was completed early 2014

# Update on IWFM and IDC Activities

- Activities related to IWFM and IDC applications
  - C2VSim is continually being updated as new data becomes available
  - Use of C2VSim by outside groups (TNC project by RMC, Kings area winter-time recharge by RMC, CALVIN update by UCD, MID project by CH2M-Hill, Sacramento Valley groundwater assessment by Davids Eng., integrated analysis of water storage in California by Lund et. al)
  - SWAP-C2VSim linkage to assess the economic impact of the drought on California's agriculture (report available at https://watershed.ucdavis.edu/library)
  - Simulation of natural flows (i.e. no agricultural and urban development) in the Central Valley using C2VSim by DWR

# Update on IWFM and IDC Activities

- Activities related to IWFM and IDC applications *(continued)*
  - Comparison of different computing resources for calibration of models using PEST – white paper will be available soon
  - Applications of IWFM include Yolo County, Merced ID, Butte County, KRCD, Walla Walla Basin in Oregon-Washington
  - Many applications of IDC around the state